SUPPLIER RELATIONSHIP MANAGEMENT BEST PRACTICES: A PERSPECTIVE ON SOUTH AFRICAN-BASED LIGHT-VEHICLE MANUFACTURERS

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ABSTRACT

Purpose
The purpose of this paper is to investigate the way in which South African-based light-vehicle original equipment manufacturers (OEMs) conduct strategic level supplier relationship management (SRM) in the context of locally based first-tier component suppliers.

Design/Methodology
A Concurrent Nested Design mixed method was used to simultaneously collect quantitative and qualitative data from seven OEMs. A census approach was followed which implies that data were collected from all seven light-vehicle OEMs with manufacturing plants in South Africa. The best practice process framework created by the Global Supply Chain Forum (GSCF) was used as a guiding instrument in the collection and analysis of data.

Findings
The findings of this study suggest that there is generally a high level of compliance by OEMs in terms of strategic level best practices in SRM. Another finding is that the implementation of best practices in SRM were generally regarded as being important to OEMs.

Research limitations/Implications
Empirical data were collected from OEMs only and not from components suppliers. For a more balanced perspective of SRM in the automotive industry, it is advisable that first-tier component suppliers also be surveyed for their opinions on practices followed. A small population and sample of participants acted as a limitation to the usefulness of the quantitative data collected. However, the small sample size allowed the collection of rich qualitative data to support the quantitative data.

Practical implications
This study identified SRM Process improvement opportunities for OEMs. These opportunities can be prioritised based on the relative importance of individual subprocesses resulting from the study's findings.

Keywords
Supplier relationship management, best practices, automotive industry, Global Supply Chain Forum, best practice framework, light-vehicle manufacturers.

INTRODUCTION

The results of an OESA/McKinsey study suggested that 80 per cent of wastage created in automotive supply chains stem from poor supplier management (Iyer, Seshadri & Vasher, 2009). Component suppliers play an increasingly important role in the automotive supply chain due to the growing value-add they provide. Not only do Original Equipment Manufacturers (OEMs) spend on average 60-70 per cent of their revenue of suppliers, they also increasing rely on the supplier for process and product innovations (McKinsey & Company 2012:13; Planning Perspectives Inc., 2015a: 4).

The South African automotive industry has grown substantially in the last 15 years and is considered an important industry for the country. In its broadest form, the industry in 2016 accounted for 7,4 per cent to GDP, 33,3 per cent of total manufacturing output and 15,6 per cent of total South African exports (AIEC, 2017: 6). The industry is however small in global terms with only 0.63 per cent of worldwide production and ranked 24th in global manufacturing output (NAAMSA, 2015: 5). The industry therefore has its own unique challenges such as low production volumes and high operational costs. Collaboration between all key role players will be required to overcome the industry's challenges (AIEC, 2017: 29).

At the time of the study, seven of the world's main light-vehicle (passenger cars and light commercial vehicles) manufacturers were producing vehicles in South Africa as manufacturing divisions of multinational parent companies. These companies include BMW South Africa, Ford Motor Company of Southern Africa (incorporating Mazda), General Motors South Africa, Mercedes-Benz South Africa, Nissan South Africa (incorporating Renault), Toyota South Africa Motors, and Volkswagen Group South Africa. These OEMs are integrated within the international supply networks of their parent companies (Benchmarking and Manufacturing Analysts SA, 2013: 19). However, they also have to procure from local suppliers in order to comply with local content promotion policies (AIEC, 2017). Locally, the OEMs are supplied by 120 first tier suppliers with a further 500 automotive component suppliers serving the broader industry (AIEC, 2015).

Successful supply chain management requires that relationships between key members in the supply chain be based on "co-operation and trust" (Christopher, 2005: 5) and "coordination and integration" for the development of "more meaningful" relationships (Coyle, Langley JR, Novack & Gibson, 2013: 109). Fair, efficient relationships in the supply chain creates opportunities for the experience of several mutual benefits such as lower administration costs, improved responsiveness, improved technical support, the collection of competitive intelligence, reduced number of complaints, better industry reputation and more profitable relationships (Fawcett, Ellram & Ogden, 2007:349). Close collaborative relationships with key suppliers is the planned consequence of supplier relationship management (SRM) processes. SRM is also identified by the Global Supply Chain Forum (GSCF) as a key cross-functional process, which, together with other key processes, should be integrated across entities for efficient and effective supply chain management (Lambert 2008a:11).

Globally, there is broad recognition of the importance of close collaborative working relationships between key supply chain members. Furthermore, it has been suggested that close relationships between OEMs and their first tier automotive component suppliers are a key requirement for the industry to overcome key challenges faced by the industry (McKinsey & Company, 2012:13). This is illustrated in the prominence of a number of international studies such as the Working Relations Index repeatedly used to measure and report on the quality of

relationships between OEMs and automotive component manufacturers (ACMs) (Planning perspectives Inc., 2015b: 7). However, little research has been done on OEM-ACM relationships in the South African automotive industry.

The main purpose of this study was to investigate the way light-vehicle OEMs in the South African automotive industry conduct SRM in respect to locally-based first tier ACMs. More specifically, the study analysed the strategic level SRM practices of OEMs against the SRM best practice framework of the GSCF.

A pragmatic research philosophy was adopted with the use of a mixed method data collection approach. A Concurrent Nested Design data collection method was used for the simultaneous collection of qualitative and quantitative data with one methodology embedded in the other. The purpose of such an approach is to supplement one type of data with the other and to triangulate results (Creswell et al., 2003: 184). A Qual/quant (qualitative dominant) approach was followed to obtain data from participants. The target population of the study was all seven OEMs producing light-vehicles in South Africa for local and international markets.

The study contributes to the body of knowledge on OEM-ACM relationships in the automotive industry. The study provides an in-depth assessment of strategic level SRM practices employed by OEMs in the context of a proven normative instrument in the GSCF supply chain management best practice framework. The latter provides for a unique interpretation of SRM practices used in the automotive industry.

LITERATURE REVIEW

Supplier Relationship Management

The alignment of business processes across entities is critical in the achievement of efficiency and effectiveness in the supply chain since competition in the market place is not only between individual firms but also between networks of firms (Lambert, 2008b; Gonzalez-Loureiro, Dabic & Kiessing, 2015). One challenge with supply chain management is to integrate processes across organisational functions and entities. This activity is very difficult in the absence of a single standard description of the key business processes in the industry. However, there are two widely accepted supply chain management frameworks (the GSCF framework and SCOR model) which provide best practice guidelines for key business processes in a supply chain. The organisations behind these frameworks (The GSCF and the Supply Chain Council) have identified key supply chain processes and subprocesses, as well as best practices related to these processes (Lambert,Garcia-Dastugue, Knemeyer & Croxton, 2008:303).

The GSCF identified eight key processes that should be integrated across organisational functions and entities in a supply chain. These include both SRM and customer relationship management (CRM) which Lambert (2008a) regards as the two most critical processes in the GSCF model due to its linkages to critical supply chain members (suppliers and customers). This supports the notion that the development of meaningful relationships can be regarded as a core task in supply chain management (Christopher, 2005: 5; Lambert & Schwieterman, 2012: 350; Gonzalez-Loureiro et al., 2015: 174). The GSCF consists of members from a group of non-competing firms and academics who have been meeting regularly since 1992 with an objective to advance supply chain management theory and practice. The GSCF framework has been applied with good success across industries (Lambert et al., 2008). For the purpose of this study, the GSCF framework was preferred as a guiding tool in the evaluation of SRM processes, mainly for its identification of SRM as a key supply chain management process. The GSCF

framework provides both strategic and operational level best practice guidelines for the identification, implementation, measurement and improvement of SRM within and between organisations. The strategic subprocesses entails the development and strategic positioning of the SRM process, whilst the operational subprocesses allow for the implementation of the SRM processes (Lambert, 2008a). This paper only focuses on the assessment of strategic SRM subprocesses employed by automotive OEMs.

For the purpose of this study, SRM is defined as per the GSCF as "…the supply chain management process that provides the structure for how relationships with suppliers are developed and maintained" (Lambert, 2008a: 53).

There has been an increase in the number of business organisations attempting to establish partnerships or alliances with key suppliers and customers (Srivastava & Singh, 2013: 1). However, the success rate is low with as many as 60 per cent of such attempts reported to fail (Wisner, Leong & Tan, 2005). This may be due to the difficulty of the process of establishing collaborative relationships, which normally include the need for mutually beneficial arrangements (Wisner, Tan & Leong, 2014: 80). A structured approach involving careful planning and execution is required for the establishment of close relationships (Fawcett et al., 2007; Lambert & Schwieterman, 2012: 351-352). Such a structure requires a framework of processes and a set of metrics that encourage cross-organisational and cross-functional behaviour (Lambert & Schwieterman, 2012: 351-352).

Every supply chain consists of multiple relationships. Not every one of those relationships should be developed into a close alliance or partnership. These should be reserved for a select few strategic suppliers (Lambert, 2008a; Lintukangas & Kahkonen, 2010: 108). Collaboration partners should be carefully selected based on supplier performance (Wisner, Tan & Leong, 2014:87), the strategic orientation of a supplier and its commitment on an alignment of goals and objectives with the buyer (Kannan & Tan, 2006: 770).

SRM in the automotive industry

An OESA/McKinsey study suggests that poor supplier management results in wastage created by the misinterpretation of product specifications and a poor understanding of and manufacturing of complex parts. It also leads to the ineffective coordination of capacity and demand (Iyer, Seshadri & Vasher, 2009). For this reason many organisations have been measuring the quality of working relations between OEMs and their component suppliers in various parts of the world. Two annual surveys conducted in this regard lead to two widely published indexes: the Working Relations Index and the SuRe-Index (Planning Perspectives Inc., 2015b: 7). To the best of the author's knowledge, no such study has been done in South Africa.

A noteworthy observation made by those involved with the WRI study over the years is that the study has made a compelling case for vehicle manufacturers to work very hard on the improvement of their working relations with component suppliers (Planning Perspectives Inc., 2015a: 4). The study has also shown the following significant benefits resulting from good working relations between OEMs and their first tier suppliers (Planning Perspectives Inc., 2015a: 4):

- Suppliers are more willing to invest in new technology to meet future OEM needs, and

- are more willing to share new technology with the OEM
- Suppliers are more willing to support the OEM beyond contractual terms
- Suppliers communicate more openly and honestly with the OEM
- Suppliers give greater price concessions to the OEM.

There are several characteristics and/or circumstances in the global automotive industry which determine the type of engagement and the quality of working relations between OEMs and their first tier component suppliers. Some of these characteristics have been part of the industry for decades, whilst others have become part of the industry more recently.

Major challenges are presented through transformed consumer expectations. New technologies are changing cars and the focus is on enhanced power trains and fuel efficiency, and the further development of driver aid and the 'connected' car (PricewaterhouseCoopers, 2014: 1). Although the automotive industry has been recognised for some time as an "unusually complex industry" (Maxton & Wormald, 2004: 159), it appears that complexity is rising further through an increasing number of products and options, shorter product life cycles, global supply networks, and an increasing expectation for innovation (PricewaterhouseCoopers, 2014: 1). Concurrently, there is the need to find a balance between the "needs and demands of customers, investors, regulators, non-governmental organisations (NGOs) and even the general public" (PricewaterhouseCoopers, 2014: 1). Further challenges are presented through high capital investment levels, cost pressures and transformed assembly strategies and modularisation. These factors have transformed the working relations between OEMs and suppliers (Germany Trade and Invest, 2014: 7).

The author could not find any recent studies that specifically address the way in which locally based OEMs conduct their SRM processes in terms of first tier component suppliers and more specifically the benchmarking of SRM processes against a normative benchmarking model. Naude (2009), conducted a study on the supply chain problems experienced by ACMs in South Africa. Although Naude's study includes an assessment of supplier relationship problems experienced by two of the seven OEMs based in the country, this study did not focus on SRM processes implemented by OEMs. A study by Naude & Badenhorst-Weiss (2012) focused on the impact of information communication technology in information sharing and the enhancement of trust in supply chain relationships in the automotive industry. Tolmay (2012) authored a study of which the purpose was the development of a relationship value model for the South African automotive industry with focus on relationships between first and second tier suppliers.

Due to the afore-mentioned shortage of literature on buyer-supplier relationships (OEM/First tier ACM) in the South African automotive industry, a need was identified for a SRM benchmarking study with focus on the practices of locally based light vehicle manufacturers. OEMs are the dominant members in the automotive supply chain and their SRM practices should have a significant influence on the closeness of relationships between themselves and their first tier component suppliers.

RESEARCH METHODOLOGY

This study follows a pragmatic research philosophy and a mixed methods approach was used to accumulate data from OEM participants regarding the way in which SRM practices are employed. More specifically, the method utilised in this study can be classified as a Concurrent Nested Design which entails the simultaneous collection of quantitative and qualitative data

with one methodology embedded (or nested) in the other. The integration of qualitative and quantitative data is conducted during the analysis phase of the research process.

The research approach can be described as descripto-explanatory. SRM practices of OEMs are described against a normative best practice analysis framework. The population used for the study is defined as all light vehicle manufacturers with assembly plants located in South Africa. Light vehicles are defined by the AIEC as "passenger cars and light commercial vehicles" (AIEC, 2014: 71). ACMs were included in the target population of a broader study conducted by the author of which the results are not reported here due to paper length constraints. The comparative results of the latter study will be reported in a separate paper.

All seven locally operating OEMs listed in the background of this paper were included in the study. However, purposeful sampling was used to select suitable participants for structured face-to-face interviews using an interview guide with questions of both a quantitative and a qualitative nature. These participants had to be knowledgeable about SRM practices and occupy senior procurement positions in their respective companies in order to be able to comment on strategic SRM practices. The participants in this study held the following positions in their respective companies: Procurement Manager - Direct Purchasing; Senior Buyer Chassis - Original Equipment (OE) Purchasing; Supply Chain Manager - Global Purchasing and Supply Chain; Head of Procurement and Component Exports; Senior Manager - OE Purchasing; Senior Manager Purchasing – Components; and Material Purchasing Manager - New Projects. The participants therefore formed what can be considered a fairly homogenous group of participants. Only one representative of each OEM target company was interviewed for a total of seven interviews which is aligned with the need for six to eight respondents for qualitative data saturation from homogenous samples (Kuzel, 1992 cited by Guest, Bunce & Johnson, 2006). The number of participants allowed for lengthy interviews with participants and the collection of both quantitative and qualitative data of which the latter formed the dominant part.

Structured interviews were used as a technique to collect primary data from the OEM participants. A combination of closed and open-ended questions was posed to participants in a structured way (by means of a questionnaire). Identical questions in the same order were asked to all OEM participants. These questions were used to assess the SRM processes of South African-based OEMs in respect of local first tier ACMs. The assessment was done to determine the level of adherence of the OEMs SRM processes to the SRM best-practice processes prescribed by the GSCF's framework. For benchmarking purposes, the exact same assessment guideline as provided by the GSCF framework had to be used in this section. Only strategic level SRM processes and subprocesses were evaluated. The questions and coded answer options (for the quantitative questions) were taken directly from the self-assessment instrument for the SRM process provided in Appendix B (pages 331-340) in the book: Supply Chain Management: Processes, Partnerships, Performance Third Edition, edited by Lambert (2008) and published by the Supply Chain Management Institute. The strategic SRM processes prescribed by the GSCF model that were assessed in the study are listed in Table 1.

The questions in the assessment tool of the GSCF are posed in a standardised manner where each question has a five-point measurement scale for the rating of an organisation's performance in accordance with best practice guidelines (1 = lowest level of adherence; 5 = full compliance with best practice), a three-point measurement scale for a rating on the importance of the particular best practice process for the organisation, and a justification column.

Table 1: Strategic subprocesses and Best Practices for SRM according to the GSCF

Process category	Subprocess	Best practices per subprocess and GSCF numbering convention
Strategic SRM	S1: Review corporate, marketing, manufacturing and sourcing strategies	S1a: Review Corporate strategy for impact on SRM S1b: Review Marketing strategy for impact on SRM S1c: Review Manufacturing strategy for impact on SRM S1d: Review Sourcing strategy for impact on SRM
	S2: Identify criteria for segmenting all suppliers	S2a: Identify key criteria for segmenting suppliers
	S3: Provide guidelines for the degree of customisation in the product and service agreement	S3a: Document business relationships with suppliers through formal PSAs S3b: Consider revenue/cost implications of various customization alternatives in supplier PSAs S3c: Provide supplier teams with formal boundaries for the degree of customization desired in PSAs
	S4: Develop a framework of metrics	S4a: The firm has formal metrics focused on SRM and understands how they impact the firm's EVA S4b: The firm has formal performance goals relating to SRM that are communicated throughout the firm and to suppliers S4c: The firm has the capability to measure a supplier's contribution to the firm's profitability S4d: The firm has the capability to measure the firm's impact on a supplier's profitability S4e: SRM metrics are aligned with other metrics used throughout the firm S4f: People throughout the firm as well as the firm's key suppliers and customers understand how their decisions and actions affect the SRM process
	S5: Develop guidelines for sharing process improvement benefits with suppliers	S5a: The firm has and use formal guidelines for how benefits from process improvements will be shared with suppliers

Source: Lambert (2008b: 56).

Validity has been assured through the use of the GSCF best practice framework and analysis instrument. A literature study confirmed that this framework is well tested by researchers and practitioners. For this reason it was left unchanged. A change of the measurement scales would also have compromised a comparison of results against benchmarks set by the GSCF. Further on, the use of face-to-face structured interviews ensured the reliability of the research process through the correct interpretation of questions by participants. A combination of numerical and qualitative data allowed for detail responses to questions and for the verification of results.

RESULTS

Five main strategic subprocesses are identified by the GSCF framework (Lambert, 2008) (refer Table 1) and the results for each are discussed in this section. For confidentiality reasons, the data accumulated in this study is not linked directly to individual OEM companies per company name.

The results for the quantitative data accumulated in the study is provided in Table 2. This table provides the individual and mean scores allocated by OEM representatives in the evaluation of their own strategic level SRM practices against the best practices proposed by the GSCF. Table 2 also provides the answers of participants regarding the level of importance ascribed to the various practices in their companies.

It is evident from Table 2 that there is generally a high level of compliance with strategic level best practices ($\overline{x}$= 5.94). The lowest average score per OEM is 3.8 (out of a maximum of 5) for OEM 7. The majority (74%) of scores provided were a value of 5, which implies full compliance with best practice for a particular process whilst 86 per cent of evaluations resulted in scores of either 4 or 5 (almost full compliance and full compliance). These results suggest

that the structures for SRM are mostly in place and the successful implementation of SRM best practices, in theory at least, only depends on the operational execution abilities of OEMs.

TABLE 2: SCORES FOR ALL STRATEGIC LEVEL SUBPROCESSES

Strategic Sub-Process	OEM 1	OEM 2	OEM 3	OEM 4	OEM 5	OEM 6	OEM 7	Mean Score	Minor Importance (N)	Important (N)	Critical (N)
S1-a	4	5	5	5	4	5	4	4.57	0	4	3
S1-b	5	5	5	5	5	5	5	5.00	0	2	4
S1-c	5	5	5	5	5	5	4	4.86	0	3	4
S1-d	3	5	5	5	3	4	2	3.86	2	4	1
S2-a	5	1	5	5	5	5	5	4.43	1	4	2
S3-a	5	5	5	5	5	5	5	5.00	0	3	3
S3-b	5	5	5	5	4	5	2	4.43	2	3	2
S3-c	5	5	5	5	5	5	2	4.57	1	3	3
S4-a	4	5	5	5	5	5	5	4.86	0	3	3
S4-b	4	5	5	5	5	5	4	4.71	0	3	4
S4-c	5	5	5	5	5	5	3	4.71	0	4	3
S4-d	4	5	5	3	4	5	3	4.14	0	4	3
S4-e	5	5	5	5	5	5	5	5.00	0	4	3
S4-f	4	2	5	3		5	3	3.67	0	5	1
S5-a	4	3	5	5	5	3	5	4.29	0	6	1
Mean	4.47	4.40	5.00	4.73	4.64	4.80	3.80	**4.54**			
Importance ratings - Totals									**6**	**55**	**40**
Importance ratings - Percentage of Total									**5.94**	**54.46**	**39.60**

Source: Kilbourn (2015: 215).

The relevance of the best practices proposed by the GSCF is reflected in the way participants scored the importance of the proposed best practices. Noteworthy from Table 2 is the high total number of "important" or "critical" ratings provided by the participants. The percentage of scores recorded as either "important" or "critical" constitute 94 per cent of the total scores. Almost 40 per cent of all best practices evaluated, were regarded as of critical importance by participants. Only a few participants (6%) allocated a "minor importance" rating to the best practices proposed.

The subsequent section provides an analysis of the interview results per SRM subprocess evaluated. The same numbering convention as in the GSCF framework (Table 1) is used.

Strategic subprocesses S1a-S1d: "Review corporate, marketing, manufacturing and sourcing strategies"

The mean score for this category of subprocesses is 4.57. Most participants (71%) rated their companies in full compliance (5/5) and a further 18 per cent rated themselves in near full compliance (4/5) with these best practices. The results suggest that these corporate strategies are in place and in most instances, it is reviewed for its impact on SRM practices.

At least three of the participants made it clear that their supplier base is very important to their respective organisations and that they take SRM practices very seriously. Therefore, SRM is considered in their corporate and functional strategies. It should be noted that all the OEM companies sampled are part of multinational parent corporations. Therefore, as confirmed by the majority of the participants, their corporate and functional strategies are largely determined by the international head-office and are aligned with international group strategies. It is not surprising that the majority of participants are evaluating their respective manufacturing strategies for its impact on SRM practices. Production scheduling is very time-sensitive in this industry. Many components arrive on a Just-in-Sequence (JIS) or Just-in-Time (JIT) basis at

the manufacturing plants of the OEMs, and it is therefore of critical importance that suppliers perform in accordance with their agreements. Most of the OEMs indicated that they closely monitor the production capacity of their component suppliers. One participant indicated that his organisation has a capacity management system that is applied to all component suppliers. They carefully monitor the capacity of their suppliers because they cannot afford a production stoppage.

It is not surprising to find most participants indicating a close alliance between their sourcing strategies and SRM practices due to SRM being closely related to the procurement function. In theory, the procurement function is the most likely division to be given the responsibility of managing supplier relations on behalf of the buyer.

Due to the impact of the parent company on company strategies, sourcing strategies are also affected. Global terms and conditions apply to contracts and a list of approved suppliers is provided. A number of participants made it clear that their organisations had only a limited influence on sourcing strategies such as supplier selection – even what concerns local suppliers. However, South African-specific issues such as Broad-Based Black Economic Empowerment (B-BBEE) and the Automotive Production Development Plan (APDP) were mentioned as creating a need for a local adjustment of strategies. An example of a sourcing component they decide on is the way deliveries of components are made to plants and the cost thereof. Most of the participants indicated that their companies had some form of collaborative project under way with local component suppliers in order to ensure more local content in their supplies.

Of all functional strategies, marketing strategies were seen as least aligned with SRM practices. One interpretation of this result may be that the marketing division is not seen as closely involved in SRM. Another interpretation can be that SRM is not linked to sales and marketing opportunities for the OEM or the supplier. This notion was confirmed by two of the participants. For example, there might be no intention to differentiate the OEMs products as a result of SRM activities.

Strategic subprocesses S2: "Identify Criteria for Segmenting Suppliers"
This strategic level subprocess has only one best practice activity required by the GSCF framework and it requires that key criteria be identified for segmenting suppliers in accordance with their relative importance to the organisation.

The mean score registered by OEMs for this best practice process is 4.43. What is important to note however, is that six of the seven participants indicated full compliance with the required best practice. Only one participant indicated no existence of key criteria for segmentation. The latter participant also rated the best practice unimportant, whilst four others rated it important and two rated it critical.

With the exception of one participant, all others indicated the existence of some sort of supplier segmentation being done, and related that preferential suppliers exist. Terms mentioned to refer to important suppliers are: 'strategic', 'preferential' and 'critical'. One participant emphasised the fact that even though they may have a preferential supplier base, all component suppliers are considered very important. The participant stated the following: "One very important item to mention as well, is that it does not matter if you supply a little wheel nut or an engine. If you do not supply that wheel nut, we don't build a vehicle".

There appears to be a clear split between component and non-component suppliers at OEM companies. One participant indicated two different purchasing teams, each responsible for one of two categories of suppliers. One category is named parts and materials, and the other materials and facilities. Both these categories are divided into strategic and non-strategic suppliers. The same participant also mentioned that if a supplier delivers components for the assembly of core products, then it is regarded as a primary supplier. Another participant indicated two categories of suppliers: direct (for vehicle components) and indirect (non-component items such as consumables, support services, advertising, etc.). This company then further breaks down the direct suppliers into categories of components such as interior, electronics, and body-in-white. These categories are further split into categories of strategic and less-strategic suppliers. Another company segmented its component suppliers into four types: Just-in Sequence (JIS), Just-in-Time (JIT), direct supply and bulk suppliers. This company also has two segments of non-production supply (production consumables and non-production consumables). These segments are dealt with in different ways. Criteria mentioned included reaction time and machine break-down time. The participant indicated that his company treats the JIS suppliers differently to the others due to the time-sensitive nature of the supply of critical components. One example mentioned was the provision of more demand-specific information to allow them to do better planning. Components delivered according to a JIS agreement entail being delivered just-in-time and also in the exact assembly sequence as required by the manufacturer. The aim with such an approach is to improve production efficiency, whilst reducing waste and storage space (Automotive Sequencing.com, 2015).

It was mentioned by two participants that most of the time a specific component is sourced from only one SA-based supplier and therefore segmentation cannot happen per groupings of components.

One participant carefully indicated that no supplier segmentation was undertaken at his company and made it clear that all component suppliers are treated equally and that standard terms and conditions apply to all. This participant could not indicate whether segmentation is applied to the category of non-component suppliers.

Strategic subprocesses S3a-S3c: "Provide guidelines for the degree of customisation in the Product and Service Agreement (PSA)"

The GSCF framework prescribes three subprocesses for this strategic-level best practice category which entails: the documentation of business relationships with suppliers through formal PSAs; Considering revenue/cost implications of various customisation alternatives; and providing supplier teams with formal boundaries regarding the degree of customisation allowed in PSAs. The scope of the evaluation only involved automotive component suppliers. The mean score for this category is 4.67, which suggests the majority of OEMs consider themselves close to best practice for this category of evaluations.

All the participants indicated that they document business relationships through formal PSA's. Most of the participants consider revenue/cost implications of various customisation alternatives in supplier PSA's. The development of PSA's and its customisation for selected suppliers appear to be managed on a very high level in OEM companies and strict guidelines are provided for customisation. Any local customisation needs to be well justified and is a very difficult process. Because of its difficulty, "it is not really happening" according to one participant.

Only three of the participants indicated that some form of local customisation is allowed. One participant mentioned that his company has some level of customisation, but the level of customisation is low because they are a global company with strict global criteria. Should there be customisation, then it will be agreed on before the PSA is drafted. Another participant indicated that his company may provide different levels of support and allocate resources to suppliers. One participant made it clear that no customisation is allowed and that all their suppliers are treated in the same way. Another participant indicated that PSA customisations are the exception to the rule and are not common practice. However, the best practice assessment tool tests if revenue/cost considerations of various PSA customisations are considered. For this reason, most participants answered in the positive and indicated full compliance with best practice.

Strategic subprocesses S4a-S4f: "Develop a framework of Metrics"
This best practice category comprises of 6 subprocesses and was tested against applications towards automotive component suppliers only. Results for each of the individual best practice questions will be discussed in the subsequent section. The overall mean score for this category of SRM best practices was 4.52. (69% of participants indicated full compliance and a further 14% indicated almost-full compliance with best practices).

Six of the seven OEM participants indicated that their companies have formal metrics for SRM and that they understand how these impact on Economic Value-Add (EVA) as per best practice prescription. Metrics mentioned in the interviews were related to costs, quality, design, service delivery, and management. Firm key performance indicators (KPIs) are negotiated and regularly reviewed.

It appears that cost reduction is a major focus area for the OEMs. A number of participants indicated that there is a consistent focus on making local suppliers more cost effective. Two participants mentioned that they contractually expect annual cost reductions from each of their component suppliers (this is common practice amongst OEMs globally (McKinsey, 2012:13)). One participant indicated an annual cost reduction requirement figure of 5 percent (based on the same volume of supplies). This agreement is based on the basis of having long-term agreements with suppliers (normally for the life-cycle of the vehicle model supplied), and the fact that efficiency gains are expected over time. The participant also indicated that they assist their suppliers in finding efficiency improvement opportunities. Two participants mentioned that they know exactly what their component supplier's cost parity is with European and other international suppliers.

Five of the participants indicated that they fully comply with the GSCF best practice requirement that the company should have formal performance goals relating to SRM and communicating these throughout the firm and with all suppliers. From the interviews it emerged that KPIs are contained in the PSAs with suppliers. Performance goals are therefore directly and indirectly communicated with suppliers by means of PSAs. Some companies make use of KPI scorecards to control SRM performance with component suppliers. KPIs are regularly reviewed. One participant indicated quarterly meetings for this review and the involvement of top management in these meetings. Another mentioned that they have what they term a 'supplier engagement process' and that they have three major meetings with each of the suppliers during the course of the year where KPIs and supplier performance are discussed. Some participants indicated that quality control teams spend a lot of time with suppliers (one participant indicated 80% of their time) to ensure that there is no problem with the quality of supplies to OEMs. This particular arrangement also ensures good communication between

OEMs and suppliers. Quality control is an essential component for local manufacturers because they have to adhere to international parent company requirements in this regard. The majority of local vehicle production is exported to international markets.

Six of the seven participants indicated that they fully comply with the best practice requirement that the company should have the ability to measure the supplier's impact on the profitability of the firm. One participant indicated that although they have cost reports from suppliers, they do not measure the impact of individual suppliers on the firm's profitability. Having the capability to measure the impact of suppliers on company profitability does not ensure that OEMs will measure it. This is confirmed by the following response of a participant: "I can determine the impact of my suppliers on company profitability but it is not important to me. Vehicle profitability is my concern". This participant has to make sure that a particular model can be manufactured profitably over the life-cycle of the product and knows exactly what his budget allows from a procurement cost perspective. He knows exactly how competitively priced every supply item is from an international perspective. Mention was made of Japan being his benchmark for vehicle cost comparisons with the South African company producing at 87 per cent of Japan's cost and India producing at 73 per cent. This participant also stated that they know the overall importance of each supplier to the OEM. They know for example what the exact contribution is that each supplier makes towards the local content built into locally produced vehicles. The latter is a critical issue for local OEMs due to the APDP.

Vehicle profitability as a focus rather than company profitability was also mentioned by two other participants. The emphasis in their discussion was on the global cost competitiveness for every component sourced. They understand every single cost driver. However, participants also mentioned the risk of labour strikes and financial problems of suppliers as issues that have to be factored into an analysis of the importance of suppliers. It appears that OEMs have a sound knowledge of their suppliers in this respect. One participant stated that for each supplier he knows which unions and bargaining councils are involved and what labour agreements are in place. This knowledge results from close relationships with suppliers and helps the OEM to plan for contingencies. The OEM knows beforehand if a labour strike is going to occur and can prepare itself for such an event (such as by raising stock levels). They also have a sound knowledge of the financial health of component suppliers. This item will be elaborated on in the subsequent section.

Another SRM best practice proposed by the GSCF model is that firms should have the capability to measure its impact on the profitability of the supplier. Three participants indicated full compliance with this requirement and two indicated almost full compliance. Two participants scored their companies as having limited capability for this process.

A theme that developed in the analyses of qualitative data for this particular item is that OEMs consider certain types of supplier information a vital requirement in the management of risk. Most participants indicated that they possess a wealth of information about their suppliers. Types of information included: percentage of overall supplier sales contributed by the OEM; the financial strength of the supplier; supply risk per supplier; and production and supply capacity. One participant indicated that his company can improve the frequency and accuracy of the information obtained about supplier organisations. He mentioned a lack of standardisation in the format of costing, reporting and financial systems utilised by suppliers. This makes it difficult to obtain accurate supplier information and to determine the impact of decisions on the financial performance of suppliers.

Various sources are used to obtain critical supplier information. One participant named a local company as information/research service provider. Another mentioned that his company gets supplier solvency ratings from the head office of the parent company. This allows them insight into the risk profile of each major component supplier. Two participants indicated the role played in this regard by their risk management departments. Two of the participants mentioned that their companies prefer not to be a majority customer of the supplier (such as a where they are responsible for more than a 50 per cent share of supplier turnover), due to the high risk attached to such a scenario.

The GSCG model states a further best practice requirement in SRM metrics that have to be aligned with other metrics in the organisation. All participants scored their companies in full compliance with this practice. It appears that cross-functional working groups allow for the alignment of SRM metrics with other metrics used in the organisation. One participant referred to sourcing meetings with representatives of a very broad range of key company divisions involved in the process of making sourcing decisions. Divisions mentioned were Aftermarket, Capex, Production Control, Parts Control and Supply Chain Management. Another participant referred to joint working groups consisting of representatives from key areas in the company such as Quality, Logistics and Purchasing that regularly meet, and one of the tasks is a check on the alignment of metrics.

The final requirement in this category of best practices according to the GSCF, is that employees throughout the firm as well as key suppliers know how their actions affect the SRM process. The mean score for this best practice is 3.67. This is the lowest score provided by the OEM participants for this category of best practices. The results suggest that the majority of participants' firms do not fully comply with this best practice requirement. Only two participants indicated full compliance with it. Two participants indicated that only their own employees understand the impact of their decisions on SRM and not those of the suppliers. One participant indicated that the SRM process is only communicated to a portion of the firm's own employees, whilst no communication is conducted with supplier organisations.

One participant stated that all key people in key departments are informed of SRM policies. However, there is "a lack from certain other areas that do not understand". For this reason the participant rated his company a three on the scale. Similarly, another participant indicated that only employees in purchasing know about SRM policies and that his company needs to do more to inform a wider group of people. Therefore, he rated his company a two on the scale.

One of the participants mentioned that people in his company had a deep understanding of supplier policies and that their policies made provision for good treatment of suppliers. Another participant also indicated the existence of a company value statement which regards suppliers as critical to the organisation. Two of the OEMs hold an annual supplier awards function which entails an invitation to people from all over the OEM companies together with supplier representatives.

Results of the study suggests that suppliers are well informed of the SRM matters of OEMs. Regular meetings are conducted and information is exchanged on a frequent basis. One participant mentioned that they focus on customer performance criteria in their monthly joint (buyer-supplier) working groups. Also that a measurement tool was developed and monthly performances are reported to the supplier and to key departments inside the company. The working groups allow for the supplier to also influence the measurement tool and to discuss areas of concern. Over and above the reporting of performances, information is exchanged with

suppliers on a daily basis. Another participant made mention of himself meeting with his suppliers twice a week. One day is used to deal with commercial matters and the other day to discuss cost issues. During these meetings they "sort out all problems". Some suppliers are visited more than others.

One OEM recently developed a survey together with three key suppliers (one multinational and two local suppliers). The survey took one year to develop and was sent to all component suppliers electronically. The main objective with the survey was to establish what the suppliers wanted from the OEM. The results were provided to the suppliers, the OEM's board of managers, and also shared internally with other employees as well. Two or three key issues were identified. The results were workshopped with suppliers to find reasons for problems and suggestions for solutions. An action plan was formulated and they are currently implementing solutions.

Strategic subprocesses S5a: "Develop guidelines for sharing improvements with suppliers"

This is the last of the strategic level best practice requirements. The goal with this practice is to ensure win-win solutions for both the firm and its suppliers. Only one question is used to assess the firm's compliance with best practice in this regard, and it was assessed in the context of automotive component suppliers only.

This best practice achieved an average score of 4.29 which indicates almost full compliance with best practice in general. Four participants indicated full compliance, in other words, they make use of formal guidelines to determine how benefits from process improvements are shared with suppliers. One participant indicated almost full compliance, whilst two indicated that they determine how benefits will be shared with suppliers on a project-by-project basis. Six participants regarded compliance with the best practice as being important and one regarded it as being critical. It was mentioned by a number of participants that global company policies apply in terms of the sharing of benefits. Notably, it was also mentioned by two participants that if the process improvement initiative comes from the supplier, then they share the benefits as a team. However, if the OEM initiates it, then only the OEM shares in the benefit. Such statements are indicative of the dominance of OEMs in the bargaining of transactions. It was also mentioned that trust plays a major role in the process. One example of collaboration towards process improvement entails that the OEM sometimes buy materials for a supplier because the OEM can get a better deal. The supplier then only needs to add labour costs to the production costs. Both parties gain in the process.

Two participants mentioned the role of supplier development teams or divisions in reference to process improvements. One company has a supplier development team that focuses on working with suppliers to identify business process improvements. The entire supply chain of the supplier is analysed to identify process improvements. The savings are split on a 50-50 basis. The company also has a dedicated team developing small and medium-sized enterprises (SMEs). In some instances, the Automotive Industrial Development Company (AIDC) is involved in the funding of projects. The emphasis is on growing the supplier companies and on the creation of process improvements. Savings resulting from improvement initiatives go to the SME for the first year, and thereafter to the OEM.

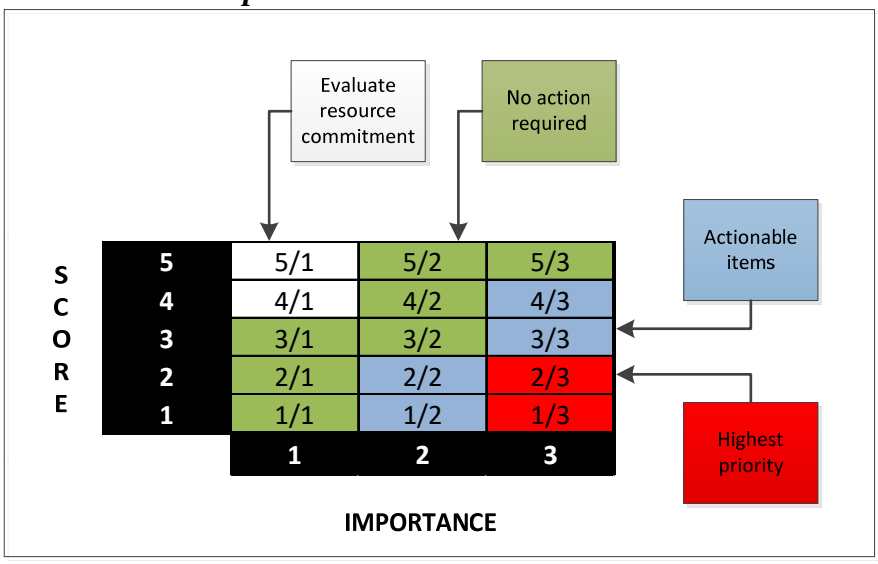
IMPROVEMENT OPPORTUNITIES

The results of the best practice assessment can be used to identify improvement opportunities. These opportunities can be measured on an industry level or on an individual company level. It is however, outside the scope of this study to provide insight about opportunities for individual companies (even though the data for such an action exists). Opportunities for improvement can be prioritised based on a comparison of scores for best practice compliance for individual subprocesses on the one hand, and scores for the importance of best practice in the particular subprocess on the other.

A guideline based on a 3-by-5 matrix that can be used for the interpretation of SRM scores is provided in Figure 1. It is suggested by Lambert (2008c:189) that any subprocess that achieves an assessment score of 1 or 2 whilst being regarded as a critical process, needs to receive highest priority for corrective action (the red coloured cells in Figure 1). Subprocesses regarded as important or critical and which received scores of 1 or 2 and 3 or 4 respectively, need to be actioned for improvements (the blue coloured cells in Figure 1). Those subprocesses regarded as of minor importance whilst having scores of 4 or 5 allocated to them, should be evaluated for resource commitment to ensure no unnecessary expenditures (the uncoloured cells in Figure 1). All the other combinations of scores require no action (the green coloured cells in Figure 1).

For the purpose of this study a comparison was drawn per strategic-level subprocess mean scores for best practice compliance and for importance. Table 3 provides an illustration. It should be noted that values of 1, 2, and 3 were used to calculate the mean scores for importance ratings per subprocess. All mean scores were rounded up so that no in-between values existed. The results were sorted based on the importance of subprocesses.

Figure 1: SRM Score Interpretation Guideline



Source: Lambert (2008c: 189)

An analysis of the scores in Table 3 shows that no strategic level subprocess which was evaluated by OEM participants, is marked for prioritised improvement action. Neither does it reflect wasteful utilisation of resources on unimportant processes.

It is evident from Table 3 that those strategic level subprocesses which are regarded as being critical (a mean score of 3 for importance), have all been rated a score of 5 for full compliance

with best practice requirements. Also, no subprocess which was rated as critical or important received a score of less than 4 out of 5. Therefore, from an industry-level perspective, there appears to be no major shortcomings regarding the performance of strategic-level SRM best practice processes at OEM level in the South African automotive industry. Albeit that some improvement opportunities exist, no priority shortcomings which warrant urgent action, has been identified.

Table 3: Strategic-level Subprocesses: Comparison between Compliance scores and Importance scores

Strategic Subprocess	Mean Score Compliance (Rounded)	Mean Score Importance (Rounded)
S1-b	***5***	***3***
S1-c	***5***	***3***
S4-b	***5***	***3***
S3-a	***5***	***3***
S4-a	***5***	***3***
S1-a	***5***	***2***
S4-c	***5***	***2***
S4-d	***4***	***2***
S4-e	***5***	***2***
S3-c	***5***	***2***
S4-f	***4***	***2***
S2-a	***4***	***2***
S5-a	***4***	***2***
S3-b	***4***	***2***
S1-d	***4***	***2***

Source: Kilbourn (2015: 218).

CONCLUSIONS

The results of this study suggest that OEMs in general are complying in a relatively high level with the SRM best practice guidelines provided by the GSCF framework. This conclusion is informed by the results of a comprehensive self-evaluation made by OEM participants against a proven normative best practice framework. OEMs generally also regard the proposed SRM best practices as being of high importance and could justify this perspective with their actions. From an OEM self-perspective on industry level, there appears to be no major shortcomings regarding their performance of strategic-level SRM best practice processes in the South African automotive industry.

The originality of this study arrives from a more in-depth analysis of the quality of working relationships between South African-based OEMs and their first tier ACMs than what existed before. The use of the GSCF best practise framework provides for a unique approach in the analysis of relationships based on structured instrument. This study also confirms the relevance of the GSCF best practice framework for SRM as an instrument to measure and improve SRM practices in the automotive industry.

LIMITATIONS

There are a number of limitations to this study that should be considered in the interpretation of its findings. The study comprised data collection from OEMs only. A more balanced perspective will be obtained if ACMs that transact directly with these OEMs are also surveyed.

Therefore, results have to be cautiously generalised. Individual OEM participants were interviewed, whilst cross-functional team involvement would have been desirable especially for the analysis of cross-functional practices. However, this approach did afford a more in-depth analysis per participant and each participant was purposefully selected based on their company positions and experience. Another potential limitation concerns the use of one best practice instrument (the GSCF framework). Albeit that this framework is well proven and was well accepted by the industry participants for its relevance and importance, this framework is not necessarily complete in its scope of best practices. Other models may have provided different findings.

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